

ABSTRACT

5 The present invention is directed to systems and methods for producing
microarrays of biological samples using an improved slide platform, vacuum manifold,
and variable pin contact velocity. Slides onto which spotting pins produce the microarray
of biological samples are secured on a flat slide platform using magnetic unit bars. The
vacuum manifold effects optimal cleaning of the spotting pins by inducing increased air
10 flow and turbulence. By reducing the velocity of the spotting pins before or after contact
with the blot pad or the microarray slide, the morphology of biological samples deposited
may be kept uniform. Similarly, low impact and separating velocities while acquiring
biological materials prevent the pins from being overloaded with solution on the outside
of the pin and causing sample wastage and non-uniform spotting.

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